

Jefferson County On-Site Sewage System Management Plan

Table of Contents

Executive Summary

Introduction

History of On-Site Sewage Management in Jefferson County

Legal Authority

Part 1: Database Enhancement

1.1 Introduction

1.2 Activities

1.2.1 Current OSS Database

1.2.2 Adding & Updating Records in the OSS Database and Identifying Unknown OSS

1.2.3 Jefferson County's Current O&M Requirements

1.2.4 The Current Database System for Maintaining O&M records

1.2.5 Ways in which OSS and O&M are Currently Used within Jefferson County

1.2.6 Additional or Planned Changes (If Made to the Data Systems)

1.3 Resources Necessary to Implement Data Components of Plan

1.3.1 Enhancements to Hardware and Software

1.3.2 Data Personnel

1.4 Timeline

1.5 Summary of Database Activities

Part 2: Identification of Sensitive Areas

2.1 Introduction

2.2 Activities

2.2.1 Description of Jefferson County Environment

2.2.2 Current & Past Water Quality Activities

2.2.3 Designating Sensitive Areas

2.2.4 Coordination with Planning Entities within Jefferson County

2.3 State Environmental Policy Act Review

2.4 Resources

2.5 Timeline

2.6 Summary and Prioritization of Activities

Part 3: Operation, Monitoring, and Maintenance in Sensitive Areas

3.1 Introduction

3.2 Activities

3.2.1 Current Operations, Monitoring, and Maintenance (O&M) Requirements Common to All Areas in Jefferson County

- 3.2.2 Sensitive Area O&M Requirements
- 3.2.3 Enforcement Activities
- 3.3 Changes and Improvements**
- 3.4 Resources**
- 3.5 Timeline**
- 3.6 Summary**

Part 4: Marine Recovery Strategy (MRAs)

- 4.1 Introduction**
 - 4.1.1 Definition of MRAs
 - 4.2.1 Legal authority for MRAs
- 4.2 Activities**
- 4.3 Marine Recovery Area On-Site Strategy (3SHB 1458, Section 5)**
 - 4.3.1 Identification of MRA
 - 4.3.2 Evaluation of OSS to Ensure Proper Function
 - 4.3.3 Determination and Repair of Failing Systems
 - 4.3.4 Additional Requirements within MRAs
 - 4.3.5 Identifying Unknown OSS in MRAs and Ensuring Proper Function
- 4.4 Electronic Data System of OSS within a MRA (3SHB 1458, Section 6)**
 - 4.4.1 Reporting Failing Systems in Jefferson County
 - 4.4.2 Ensuring Electronic OSS Data Systems for Each MRA are Compatible within Jefferson County (addressed in Part One)
- 4.5 DOH Contracts with Jefferson County for Marine Recovery Area**
 - 4.5.1 Description of Jefferson County's current capacity and estimated need (personnel, financial assistance, hardware and software, etc.) to meet certain goals
- 4.6 Resources**
- 4.7 Timeline**

Part 5: Education

- 5.1 Background**
- 5.2 Activities**
 - 5.2.1 Current Education**
 - 5.2.1.1 Public classes & events
 - 5.2.1.2 Educational Forms & Handouts
 - 5.2.1.3 Links to external resources
 - 5.3 Planned Education**
 - 5.4 Current Reminders**
 - 5.4.1 Initial Installation Introduction
 - 5.4.2 Periodic Notification
 - 5.5 Planned Reminders**
 - 5.6 Measured Effectiveness**
 - 5.7 Resources**
 - 5.8 Timeline**
 - 5.9 Summary and Prioritization of Activities**

Appendices

Appendix A: Database & Related O&M Documents

- A.1 Map using data from Accela database through Crystal Reports to GIS through Excel spreadsheet- Assigned Work Areas
- A.2 Map of section of eastern Jefferson County with parcel identification numbers
- A.3 List of septic system types from Accela database
- A.4 Webpage with data from Accela database
- A.5 Examples of Crystal Reports from Accela
- A.6 Map of portion of eastern Jefferson County of sites with toilets per Assessors database
- A.7 List of Parcel tags and Report of a Parcel "tag"
- A.8 Table 1 - Monitoring frequency requirements per JC 8.15
- A.9 Crystal Report on monitoring inspection results
- A.10 Map of City of Port Townsend Service Area
- A.11 Map of DOE 303(d) listed sites
- A.12 Flood Damage Prevention Ordinance Onsite Sewage System requirements
- A.13 PUD Monitoring Contract example
- A.14 Current Monitoring Agreement (as of June 2007)
- A.15 JC Policy 04-01 Evaluation of Existing Systems for Building Permit Application
- A.16 Septic Pumpers Report
- A.17 Pollution Identification and Correction Protocol (PIC)

Appendix B: General Maps

- B.1 Jefferson County Jurisdictional Boundaries
 - B.2 Jefferson County WRIAs and water bodies
 - B.3 Population Density
 - B.4 Jefferson County Critical Areas:
 - a) Critical Aquifer Recharge Areas
 - b) Flood zones
- ESA checklist

Appendix C: Education Materials

- C.1 Assessment tool for education efforts – questionnaire and results

References

List of Contacts

Data Sources

Executive Summary

As required by Chapter 246-272A WAC, Jefferson County Public Health has completed a Sewage Management Plan (SMP) that describes the on-site sewage program as it now stands in Jefferson County, and what improvements will occur over the next 5 years. Additionally, this SMP describes the obstacles and issues facing Jefferson County as it moves forward to implement the Marine Recovery Areas, as designated herein, in Hood Canal. Jefferson County is embarking on a journey through this SMP that will eventually lead to a stronger and more effective Environmental Health Department, improved water quality throughout Jefferson County, more education opportunities for residents and homeowners about their on-site sewage system (OSS), and improved operation and maintenance for all existing and future OSS.

At this time, Jefferson County Public Health has inserted language from this SMP into the soon-to-be-approved Jefferson County On-Site Sewage Code. Additionally, Jefferson County Public Health will submit this SMP to the Jefferson County Board of Health during their July meeting for review. From there, Jefferson County Public Health will hold a public meeting regarding this plan. By August this SMP will be adopted by the Jefferson County Board of Health, and implemented thereafter.

Introduction

History of On-Site Sewage Management in Jefferson County

Permitting began in 1970

Permitting Database began in 1990

Total Number of sites served – approximately 13,500

Total number of sites with septic record – 12,564

of years of monitoring program - 20 years

of years with pump reports – 7 years

Acres of approved shellfish beds – 17,932

Acres of conditionally approved shellfish beds - 78

Acres of prohibited shellfish beds – 1,739 (closed due to proximity to sewer outfalls and marinas)

Acres of restricted shellfish beds – 50 acres out of 8,500 in Discovery Bay, 200 acres elsewhere.

Sites on 303(d) list for fecal coliform – Chimacum Creek for the main stem and the mouth, Mats Mats Bay north end.

Legal Authority

In July 2005, the State Board of Health adopted new on-site sewage system (OSS) rules. These required Jefferson County to write a plan for the development and management of all OSS within its jurisdiction. Then, in March 2006, the Legislature added a new section to Title 70 RCW relating to the management of OSS in marine areas (Third Substitute House Bill 1458).

The intent of the rule and legislation is to provide greater assurance that existing OSS are not causing public health problems, either through inadequate operation and maintenance or outright failure. By writing the Plan, Jefferson County is developing and enhancing processes to: inventory all OSS, identify sensitive areas throughout Jefferson County, including Marine Recovery Areas, establish Operation, Monitoring and Maintenance (O&M) needs in the designated sensitive areas, inform homeowners of needed maintenance and develop procedures for identifying and repairing failing systems.

Jefferson County is required to develop and submit this plan to Washington State Department of Health (DOH) by July 1, 2007.

Part 1: Database Enhancement

1.1 Introduction

Jefferson County utilizes several databases to record and track information on properties/parcels within its jurisdiction. WAC 246-272A-0015 (1) contains elements that must be addressed in this plan. This part of the plan details how Jefferson County will meet the following elements:

- (a) Progressively develop and maintain an inventory of all known OSS in operation within the jurisdiction;
- (f) Maintain records required under chapter 246-272A WAC including all operation and maintenance activities as identified.

1.2 Activities

1.2.1 Current OSS Database

Description

The existing database Jefferson County uses for both permitting and monitoring information is **Accelas' Tidemark/Advantage, previously known as "Permit Plan"**.

- JC implemented the use of this database in 1990 with a basic program that was customized to meet local needs/requirements.

- The System is used for all permitting and complaint cases including building, shoreline, road access/use, subdivision, septic. There are currently 16 case types in the system.
- **Customization** - The system allows substantial customization for existing case types, adding case types, modifying or adding to screen elements, adding supporting data tables.
- **Capacity** -The system has unlimited capacity for additional case types, cases and users. Case types can be designed and added by local staff to meet specific needs such as stormwater, utility, violations. Additional elements can be purchased from the vendor such as web access and wireless.

Importing and Exporting Data

- **Import** - Data tables can be populated from other county databases to assure consistency and that the most current data is available to staff and the public. An example of this is the importation from the Assessors AS400 database- the parcel table of Tidemark is updated daily with current owner name and address and legal description as well as land use codes, school district and adding newly created parcels.
- **Export** - Tables can also be exported to other programs/formats. For example a report can be created using Crystal Reports (the Accela reporting tool) which can then be saved in an excel spreadsheet that can be used to create a map. **See Appendix A.1 for example.**

Data Storage & Back-up

- All data are stored on an SQL server.
- **Backup** of data occurs daily with 2 weeks of backup retained at all times.
- **Security**
 - System security is accomplished through the use of passwords.
 - Security is also controlled by allowing access to only certain parts of the database by different types of users. There is read only as well as a variety of levels that limit access to editing or adding of activities, data entry, etc.

Maintenance

- The parcel table is updated daily via the AS400
- Correction or updating of parcel numbers occurs as staff is notified by the Assessors Office that changes have occurred. This system is imperfect and dependent on staff availability and knowledge to accurately correct all cases associated with the previous parcel numbers.
- Correction of data is done as staff identifies it. The daily update of the parcel table only impacts new cases entered. The existing cases are "historic" and can only be corrected manually. If an error was identified that impacted a group of cases that have some common characteristic or field such as everything that was in planning area 7 that needed a specific

correction that can be done through a special script by the system administrator only. This protects the integrity of case data.

- A users group that includes members from all departments that use the system is convened regularly-monthly to quarterly as needs change.
- The database administrator attends most user group meetings and guides possible changes to the system. This provides consistency across different case types for activities/actions but allows for case individualization as needs arise.

Number of Recorded OSS and Total OSS

- According to the Assessor's AS400 database there are 18,588 improved parcels in Jefferson County. Some of these contain structures that do not produce wastewater and some contain more than one structure producing wastewater. Further analysis may be warranted. Approximately 3,880 of these parcels are served by the Port Townsend sewer system and 1,160 are served by the Port Ludlow sewer system. Therefore, assuming the remaining parcels are served by an onsite sewage system, there are approximately 13,500 OSS in Jefferson County.
- As of June 2007 there are 11,364 septic records in the Accela database and approximately 1,200 paper records to be entered.
 - The Database contains records for several categories of systems:
 - "Known Systems" for which permits were issued between 1970 and 2006. These could be new, repairs/upgrades, or expansions.
 - "Unknown Systems" fall into two categories¹:
 - ✓ Sites for which only a sanitary survey was conducted, no other permit record exists. These consist of visual observations and reflect what the resident described to the inspector.
 - ✓ Sites where systems were installed before 1970, prior to permit requirements, for which an evaluation of the existing septic system (EES) were completed. These vary in the level of detail of evaluation. Some identify detailed system component locations and some include only inspection of the tank and a visual inspection of the probable drainfield location.
 - A status is assigned for each case and can be reported
 - ✓ A=approved to install,
 - ✓ F=finalized/complete,
 - ✓ C=Cancelled,
 - ✓ N=Not finalized (either installed before permit requirements and only an EES has been done, a monitoring inspection was completed, or the system was permitted but no record of completion is on record),

- ✓ V=violation (system has major noncompliance issues and the owner has been notified in writing),
- ✓ I=incomplete (some portion of the system is not yet installed or a condition of the permit has not been met.
- Based on the above information there may be up to 1,000 parcels that have septic systems for which we have no knowledge at all. These could be categorized as “assumed”, an OSS that has no records but through GIS analysis and OSS can be assumed to exist on a parcel.

Reporting the Location of OSS

Each system is tied to a parcel #, a tax id#, and is linked to the GIS parcel layer, **See Appendix A.2 for sample.**

- The system does not pinpoint the location of the OSS within a parcel. “Asbuilt” or record drawings are used along with physical observations during inspections to verify system location on a parcel.
- Some inaccuracies occur when a parcel number is changed due to subdivision or alteration of lot configuration. *See maintenance section above.*

Calculating OSS Age

The case number reflects the year the system was permitted, i.e. SEP75-00001 was the 1st case entered/permitted in 1975.

- The date the system was finalized/completed is recorded to the case and can be reported. This may not reflect the date the system was put into use as there may not have been a building connected to a completed system.
- **Historic data** - Individual Cases retain all historic data from the time the case was added to the database. Data can be changed or added to an individual case but is not modified when updates of owner or other elements are updated to the parcel data table creating a stable/historic record.
 - A Septic case consists of an individual onsite sewage systems that most commonly includes the tank/s, treatment unit (if required) and disposal component. An OSS that serves a separate residence will have a separate case unless it shares all system components including the tank/s.
 - If a component is added, a treatment unit or if a new drainfield or tank is required, a new case number is assigned and all old case info is physically filed to the new case and cross referenced in the electronic case record as well as the paper file.
- All information regarding an individual system is contained in the SEP case including monitoring data.

Capacity to Report OSS Type

- The type of OSS is recorded for each case that is permitted. Unpermitted/unknown systems are assumed to be conventional gravity fed and recorded as such.
- Additional fields are used to further classify the OSS type. These identify if the OSS is residential or commercial, individual or community, alternative or conventional.
- Septic systems types are classified in the database, such as “conventional trench” or “sandfilter/pressure trench/gravelless chamber”, **see Appendix A.3 for full list.**

Data Fields Used In Permitting and the O&M Database

Systems for which a permit was issued contain the following information at a minimum:

- ✓ Primary parcel number
- ✓ Size of lot
- ✓ # of gallons designed/approved or number of bedrooms
- ✓ Type of system- conventional trench, mound, tank only, there are 84 combinations.
- ✓ The length, width, depth of disposal component
- ✓ Soil type and application rate of sewage to the soils
- ✓ Water supply serving structure/site
- ✓ Size of septic tank or trash tank if present
- ✓ Previous evaluations-septic permits, wet season evaluation, subdivision review
- ✓ Waiver/variance applied for and whether state or local

Many data points from the onsite sewage cases are available for viewing on the Jefferson County website. **See Appendix A.4 for example.**

Reporting and Evaluating the Data

- Crystal Reports provides a high degree of flexibility in reporting database information. Reports can be generated by defining parameters by land area (lot size), system type, soil type, land use zoning, staff, etc. Examples are provided in **Appendix A.5**
- GIS layers can be created by exporting data from the permitting data base and intersecting them with data from other sources. For example a map was created that showed all the parcels that the AS400 lists as having toilet facilities with the parcels that we have some record of an onsite sewage system. This may allow us to see how many and where parcels were located for which we have no records. **See Appendix A.6.** *Further assessment of this particular Assessor field revealed that it is not consistently filled out so will not provide an accurate representation of unknown systems but the concept of using other databases info to inform our evaluation of areas is useful.*

1.2.2 Adding and Updating Records in the OSS Database & Identifying Unknown OSS

Methodology of Adding Records

All OSS records and permit data generated since 1991 have been entered into the database as part of the permitting process. Paper records exist for cases back to 1969. Additionally the following methods are used to create a case and add data on other existing systems:

- Cases are added as previously unknown systems are evaluated and assigned a number – SEPy-00000. Jefferson County Code 8.15 and Policy 04-01 dictate when systems will be evaluated. This process brings those unknown systems into the records and the monitoring program for future periodic monitoring.
- Cases for which some paper record exists are actively added when the connection can be verified and tied with a high degree of certainty to a parcel. Through a grant from the Washington State Department of Ecology a substantial effort was made in 19--- Many records were entered including several large subdivisions along the waterfront. An emphasis was placed during this time on entering the records along the shoreline. Approximately 1,200 paper records have yet to be entered. Some of these will be very difficult because there are no identifying elements; no addresses, no property dimensions or plot plan and no detailed location information. These will be retained in the existing filing system, “section, township, and range” category, until some future assessment provides a high degree of certainty and allows them to be attached to a parcel.

Updating Existing Records

- Cases for systems that connect to sewer are cancelled.
- Monitoring report data is entered into the case file for an OSS.
- As parcels are subdivided or combined a report must be generated and the cases manually updated. This is a cumbersome but essential process. Corrections and changes are made at the time a subdivision is completed or as inconsistencies are observed. *See Maintenance section above.*

Relationship between cases

- Each case type (building, septic) stands alone and can be formatted and added to without altering or interfering with other case types. Additional “pages” or “fields” can be added to a case as needs arise, i.e. a field for GPS latitude/longitude, a “page” for pumper reports or sampling data at a parcel or system can be added to the septic case.
- Links can be made between cases where needed through activities or data tables. For example completing an activity in the building case such as “final approval” can add an “O&M inspection required” activity to the associated septic case, or if there is a well on the site as identified through

- the Utility Service Review (our well seal inspection case) case this data can be included automatically when the septic case is entered.
- Cases can be grouped together by a project number.
- All cases associated with a parcel can be viewed through standard search tools.
- Individual parcels can be “tagged” with special information such as “shellfish protection district”, “frequently flooded”, or “violation”. These tags can place a hold on a parcel that keeps further permits from being issued, they can provide a warning/info as to the status/condition on the parcel for consideration when permitting or evaluating a particular area, or a report can be run to identify all cases with a particular tag. **See Appendix A.7 for example)**

1.2.3 Current Operations and Monitoring Requirements

In 1987 Jefferson County Board of Health signed an MOU with the Jefferson County PUD#1 to monitor all “alternative” onsite sewage systems in Jefferson County. Approximately 1,000 systems were under monitoring contract requirements at the time of code revision in 2000. Systems were monitored based on system type (complexity) every year to two years for the first 5 years and then every 10 years thereafter.

September of 2000 - Jefferson County Code 8.15.150 Onsite Sewage Code was revised. It requires that all onsite sewage systems be monitored periodically at the schedule adopted in Table 1. **See Appendix A.8 for Table 1.**

- New systems
 - Conventional gravity or pump to gravity permitted as of 9/2000 are subject to a permit condition that states the required monitoring frequency. For sites over 1 acre, greater than 200’ from a shoreline and not subject to a waiver, the system must be monitored every 6 years. Sites less than one acre, systems less than 200’ to a shoreline or subject to an approved waiver must be monitored every 3 years. It is the responsibility of the property owner to contract with a private provider or the Health Department for the monitoring.
 - All other systems are subject to a permit condition that requires entering into a contract for monitoring the system with an approved monitoring entity. The frequency varies from 1 to 3 years based on the above criteria. The currently approved entity is the Jefferson County PUD #1. The contract must be signed prior to final approval of the onsite sewage system permit.
 - All systems generating waste water of greater than residential strength must be inspected annually per permit condition and/or contract.

- Existing systems
 - Jefferson County Code 8.15.150 (6) requires that all existing systems not currently under a PUD monitoring contract shall be entered into the monitoring program at the earliest of the following dates:
 - ✓ At time of sale
 - ✓ Upon Application for certain building permits as per Policy 04-01 adopted by the BOH
 - ✓ Identification that the site is in an Marine Recovery Area as designated by the JCBOH

Recording Monitoring data

- A Monitoring Report is completed after each inspection on forms developed by the Health Department.
 - Inspections by the PUD are entered directly into the database and they enter an activity for the next required inspection
 - Private certified O&M Specialists submit the report and Environmental Health Staff enter the data into the database and enters an activity for the next required inspection.
 - Pumper reports are currently submitted to the Health Department but are not entered into the database. These reports do not currently constitute a valid monitoring inspection since they only evaluate the tank.
- Monitoring inspection reports submitted by private contractors provide the following information at a minimum:
 - ✓ Parcel Number;
 - ✓ Name, Mailing address, and phone number of the property owner;
 - ✓ Site address;
 - ✓ System type;
 - ✓ System details such as depth of scum and sludge, condition of baffles, screens, electrical controls, pump operation, ponding, drainfield disturbance, etc.
 - ✓ Description of whether or not a problem was identified;
 - ✓ Description of action/s needed;
 - ✓ Date of inspection;
 - ✓ The inspectors name, address and phone number.
- The same information is supplied by the PUD.
- Ten points of information are entered into the database:
 - ✓ Date of inspection
 - ✓ ID of inspector (Health Dept, Private, PUD)
 - ✓ Was there a problem identified?
 - ✓ Did the septic tank need to be pumped?
 - ✓ Did the pump chamber need to be pumped?
 - ✓ Was infiltration into the system (tanks) noted?
 - ✓ Was there a problem with the electrical controls?

- ✓ Was residual pressure noted as the end of the lines?
- ✓ Was there any disturbance observed in the area of the system components?
- ✓ Notes

Generally, a yes answer denotes that action is required, excepting in the case of noting the presence of residual head. The last area is for comments/explanation of conditions. It may be noted here that the house has not been occupied for some X amount of time, explain that the alarm was not working, the drainfield has a driveway over it, etc.

1.2.3 Monitoring Inspection Tracking and Record Maintenance

The same database is used for tracking O&M as for permitting. The monitoring information for a system is simply another “page” of the OSS case.

- Since 2000 every inspection has been entered.
- Records from 1988 to 2000 are filed in individual files at the PUD and copies are on file at the Health Department.
- The Database creates a report identifying which systems are due for inspection. Any time period can be specified, i.e. due in the month of December, due in 2007. The report can be broken down additionally by planning area.
- The database creates an inspection report and mailing labels based on the criteria specified above.
- These lists can be used to send inspection reminders, general system maintenance info, etc.
- O&M providers, designers and pumpers are required by JC Code 8.15 to report “failure” with 24 hours to the local jurisdiction.
- Letters are sent where major defects or problems are noted on the inspection report.

1.2.4 Evaluating Monitoring Inspection Data

- Reports are developed from the data including general statistics on number of inspections completed for a specified period of time in a specific area. They can also detail areas of problems, how many tanks needed to be pumped, etc. These can be crossed with system type, planning areas, watershed areas, proximity to shoreline, designer or any other parameter that has been entered into the system. **See Appendix A.9 for an example.**
- Information from these reports is provided to the Board of Health and informs decisions on funding, allocation of staff resources, policy development and code revisions.

1.2.6 Changes proposed/planned

Jefferson County is working on the following as time and funds allow:

Planned changes to Data system

- Add database activity to document all notices sent to property owner as follow-up to monitoring inspections.
- Add “page” to case file for inspections other than complete monitoring inspection such as a pumpers report.
- Develop ability to enter data remotely-wireless connection.
- Develop system to scan forms that will fill in data points in data base.
- Continue to improve the updating of case files as parcel numbers change.

Planned changes to monitoring program

- Develop mechanism to inform holders of current PUD monitoring contracts that monitoring is now required by private contractors due to PUD decision not to continue their participation in the monitoring of individual onsite sewage systems.
- Develop enforcement mechanism for unsatisfactory, incomplete or absent monitoring report for both homeowner and certified persons.
- Develop system for certifying homeowners to monitor their own systems.
- Develop system that will allow monitoring professionals to enter data into the system.

1.3 Resources Necessary to Implement Data Components of Plan

1.3.1 Enhancements to Hardware and software

Upgrade database to newer version that allows online reporting.

Development of an online reporting system for O&M Inspectors.

Obtain equipment required to enter data remotely through a wireless connection.

1.3.2 Data Personnel

An increase in the time required for entering data is anticipated during the switch from PUD inspections to private sector prior to the implementation of the online system.

Staff time is required to develop the reports, add necessary fields to cases, and coordinate with the database administrator regarding online reporting and access to the system.

1.4 Timeline

The following timeline outlines prioritized activities to enhance the O&M database:

Goal	Activities	Deadline
Complete database records for all existing paper files	Enter records	Ongoing
Upgrade database	Coordinate with Accella Purchase upgrade	December 2008
Create reports and forms necessary to implement private monitoring program	Assign and train staff on database and reporting system. Create reports and forms	Ongoing
Complete transfer of PUD monitoring to Private Inspectors	Revise Code, develop agreements, contact existing system owners	Ongoing
Develop online reporting system	Create Report and coordinate with database administrator to implement	Funding required.

Part 2: Identification of Sensitive Areas

2.1 Introduction

This section describes how Jefferson County identifies sensitive areas where OSS could pose an increased public health risk. It describes how this information is integrated into the OSS program and how Jefferson County Public Health coordinates with other local planning processes regarding sensitive areas. The physical and demographic characteristics of Jefferson County are provided here.

This part of the plan satisfies the following elements of WAC 246-272A-0015 (1):
(b) Identify any areas where OSS could pose an increased public health risk.

The following areas shall be given priority in this activity:

- Shellfish protection districts or shellfish growing areas;
- Sole source Aquifers designated by the US EPA;
- Areas in which aquifers used for potable water as designated under the Wa. State Growth Management Act, Chapter 36.70A RCW are critically impacted by recharge;
- Designated wellhead protection areas for Group A public water systems;
- Up-gradient areas directly influencing water recreation facilities designated for swimming in natural waters with artificial boundaries within the waters as described by the Water Recreation Facilities Act, Chapter 70.90 RCW;

- Areas designated by the department of ecology as special protection areas under WAC 173-200-090, Water quality standards for ground waters of the state of Washington;
- Wetland areas under production of crops for human consumption;
- Frequently flooded areas including areas delineated by the Federal Emergency Management Agency and or as designated under the Wa. State Growth Management Act, Chapter 36.70A RCW;
- Areas where nitrogen has been identified as a contaminant of concern; and
- Other areas designated by the local health officer such as Marine Recovery Areas.

(i) Assure that the Plan was developed to coordinate with the Jefferson County Comprehensive Plan.

2.2 Activities

2.2.1 Description of Jefferson County Environment

Jurisdictional Boundaries

Jefferson County is bounded on the north by the Strait of Juan de Fuca and Clallam County, on the north and east by Admiralty Inlet, on the east by Port Townsend Bay, Oak bay and the Hood Canal, on the west by the Pacific Ocean and on the south by Mason and Grays Harbor Counties WA. ***See Appendix B.1 for map of Jefferson County.*** Annual precipitation in eastern Jefferson County ranges from 18" in the northern part to 70" in the southeastern part.

Land Use-

- 1808 square miles, 18th largest of WA. State 39 counties. The Olympic National Park and National Forest comprise approximately 65% of the 1.16 million acres of land.
- Nearly 96% of the population resides in eastern Jefferson County.
- There are more than 250 miles of marine shoreline, more than 367 miles of river and stream shoreline and more than 18 miles of lake shoreline in eastern Jefferson County. ***See Appendix B.2 for map of water bodies.***
- There is one incorporated city, Port Townsend, and one Master Planned Resort, Port Ludlow.
- There are several small population centers as noted below but Jefferson County is primarily a rural county.

Demographics

- Population- between 1980 and 2002 the population increased by two-thirds, from 15,965 to 25,953. Since 1980 Jefferson County population growth has generally exceeded that of Washington State.
- The largest sources of employment are the Health Care and Social Assistance sector with 18% of county wide employment and the

Accommodation and Food Service sector with 14%.² Marine trades and education are strong elements in the community as well.

- With a total land area of 1808 square miles the population density is just 14.4 people per square mile but given that the Olympic National Park and National Forest comprise 1,175 square miles that leaves just 633 square miles for the population to reside, resulting in a population density of approximately 41 people per square mile.

Population³

Census Designated Place	Total population 2000	Estimated pop. By 2016
Jefferson County	25953	39,397 (Watterson Report)
Port Townsend	8325	
Port Hadlock	3467	
Port Ludlow	1953	
Marrowstone	876	
Brinnon	831	
Quilcene	632	
West End	599	

- Race and Ethnicity- 91% white non-Hispanic in 2000⁴ (Washington State is about 79% white non-Hispanic)
- Education- nine out of 10 adults had a high school education or more in 2000, three out of ten had 4 or more years of college. Less than half of the 18-34 year olds reported some post-secondary education.⁵
- Poverty – The term characterizes people and households which may lack the financial resources to meet basic needs such as food, clothing and housing. It is generally measured by the annual federal poverty index. From 1989-1999 the proportion of all Jefferson County residents living below 100% of the federal poverty index decreased by 3% from 14% to 11%. However, the poverty rate among families increased from 9% to 11% during this period. At below 200% of the federal poverty index a household is considered low income and is eligible for assistance. The 2000 US Census identifies 28% of Jefferson County residents as low income.⁶
- Household income- Jefferson County median income is at about 80% of the state average. By the late 1990's increases in housing prices were nearly the same as the state resulting in an "affordability gap".⁷
- Jefferson County's median age is 47.1, older than in Puget Sound, Washington State and the US.⁸

Drainage

- Storm water – In 1999 the county adopted the DOE Stormwater Manual for the review and implementation of stormwater projects. In 2006 the Jefferson County Stormwater Management Plan was adopted.

- Water shed planning has been completed for three of Jefferson Counties watersheds.
 - ✓ Quilcene –Dabob – plan completed 1989
 - ✓ Ludlow – plan completed 1994
 - ✓ Discovery Bay- plan completed 1998
- Jefferson County is involved in planning for Water Resource Inventory Areas (WRIA) **See Appendix B.2 for map of boundaries.**
 - ✓ WRIA 17-Quilcene-Sno Basin
 - ✓ WRIA 16-Dosewallips-Skokomish
 - ✓ WRIA 20-Soleduck-Hoh
- Geology and Soils vary from excessively well drained to poorly drained. Eastern JC consists of relatively low, rolling to moderately steep, glacial terraces and long, narrow valleys in the northern sections. The southern section consists of moderately steep to steep glacial terraces and very steep, rough, broken mountain foothills that drop to the shoreline.⁹

Population density

Residential and commercial lands were largely formed along historic transportation corridors.¹⁰ The north eastern quadrant of the county including the communities of Port Townsend, the Tri-area (Port Hadlock, Chimacum, Irondale), and Port Ludlow contain over 76% of the population. **See Appendix B.3 for population density 1990.**

Water supply

- Surface water is the water supply for the City of Port Townsend and those in their service area of approximately 9,000 people. The water is supplied from the Big Quilcene and Little Quilcene Rivers. The watershed protection is supplemented by an MOU between the City of Port Townsend and the US Dept. of Agriculture, the US Forest Service and the Olympic National Forest. **See Appendix A.10 for Port Townsend water service area map.**
 - ✓ Ground water is the primary supply for the remaining 17,000+/- residents.
 - ✓ Group A Public water supplies- 71 systems
 - ✓ Group B Public water supplies- 123 systems
 - ✓ A mix of individual drilled and dug wells, springs and surface waters serve the remaining population.

Water Quality

- Ground water quality is good- shallow or poorly constructed water supplies may experience coliform contamination, some public water supplies have occasional coliform present samples, and some areas have high chloride (conate and sea-water intrusion), iron and/or manganese concentrations.
- Surface water quality varies from good to threatened; some water bodies are on the Washington State 303(d) list. A map depicting 303(d) listed water bodies in Eastern Jefferson County is found in **Appendix A.11.**

- For the year 2006 Group A the State DOH reported no acute coliform violations and 5 non-acute violation for ground water. There were no violations reported for surface water.

2.2.2 Current and Past Water Quality Activities

The division of Water Quality is housed within the Environmental Health Division and is responsible for evaluating water resources. They coordinate efforts where State or local water quality monitoring results indicate a threatened or degraded status. They are involved in the following activities to assure the continued health of ground and surface waters.

- Land conservation and preservation – Through its Conservation Futures Fund, Jefferson County contributed to the protection of more than 150 acres of open space in East Jefferson County. Projects totaling an additional 230 acres were awarded funding in 2007 but have not been implemented. The conservation futures tax levy collections, authorized under RCW 84.34.230, are an important means of retaining community character and accomplishing open space policies and objective of the Jefferson County Comprehensive Plan. Projects include wildlife corridors, viewsapes, sustainable forestry and agriculture, or culturally significant lands such as the Chimacum Creek Estuary, Sunfield Farm (a school and community farming project), the Quimper Wildlife and Tarboo Creek corridors and the Tamanawas Rock Sanctuary. Fee-simple acquisitions are held by Jefferson County or the City of Port Townsend. Conservation easements are created and held in Partnership with the Jefferson Land Trust.
- Salmon Recovery Planning is accomplished via the Hood Canal Coordinating Council Lead Entity and recently formed North Pacific Coast Lead Entity. The lead entities offer a local process for developing and ranking salmon recovery projects for the Salmon Recovery Funding Board (SRFB) review and funding. Jefferson County has protected and restored 75 acres of floodplain and adjacent uplands in the lower Dosiwallips River for the purpose of salmon recovery via Secure Rural Schools Title III, SRFB, and WS DOE funds. Future acquisitions may also include flood-prone parcels on the Duckabush River.
- Shellfish Biotoxin monitoring and education- The County has a volunteer program for collection of shellfish samples during the months of May to September. Beaches are posted as necessary and news releases and public information are published in the local newspaper seasonally.
- The Jefferson County Marine Resources Committee (MRC) is a citizen-based effort to identify regional marine issues, foster community understanding and involvement, recommend positive action, and develop support to protect and restore marine resources. The Committee's projects include sponsoring research on forage fish habitat, restoring the native Olympia oyster to Discovery Bay, and removing derelict gear from local waters. The MRC is an advisory group to the Board of County Commissioners and operates under the umbrella of the Northwest Straits

Commission. The MRC members are citizen volunteers who are committed to work closely with other community members-homeowners, business owners, recreational enthusiasts, commercial and sport fishers-to reduce or stop the decline of the marine habitat in our ecologically rich corner of the world.

- Chimicum Creek Project – Portions of Chimacum Creek are on WS DOE 303(d) list for exceeding fecal-coliform and temperature limits. JCPH has partnered with the JC Conservation District to restore water quality throughout the watershed and bring the entire stream into compliance. Primary activities of the restoration work include:
 - ✓ Agricultural best-management practices;
 - ✓ Sanitary surveys of residences with septic systems;
 - ✓ Riparian buffer fencing and tree-planting;
 - ✓ Water quality monitoring;
 - ✓ Public education and outreach
- Discovery Bay Project – Fifty acres (of 8,500 acres in Discovery Bay) of commercial shellfish-growing area in Discovery Bay have been downgraded to Restricted as of May 2007, due to elevated fecal-coliform levels in the marine water. JCPH is the lead entity on the Closure Response Plan to identify and control sources of bacterial pollution in Discovery Bay and the Salmon-Snow watershed. This includes:
 - ✓ Monitoring fresh and marine waters to help identify pollution sources;
 - ✓ Conducting sanitary surveys of shoreline and streamside residences with septic systems;
 - ✓ Tracing and eliminating illegal discharges;
 - ✓ Fencing livestock out of waterways and building off-stream waterings; and
 - ✓ Providing outreach and education to area residents.
- WRIA 16 (Skokomish-Dosiwallips) watershed management plan was completed in July 2006. The planning unit is currently developing a detailed implementation plan that will result in a road-map for turning plan recommendations into reality.
- WRIA 17 (Quilcene-Snow) planning unit completed it's watershed management plan in January 2006. A detailed implementation plan is being developed and in-stream flow rule making for the WRIA is being pursued by the WS DOE and its contractors.
- WRIA 20 (Sol-duc/Hoh) watershed management plan is nearing completion for drainages in the west end of Jefferson County. The plan may be approved in the fall of 2007.
- Beach monitoring – As part of Washington Swimming BEACH (Beach Environmental Assessment, Communication, and Health) program, JCPH monitors enterococci levels at Chimacum Beach and Quilcene Marina from May to September. The Port Townsend Marine Science Center also monitors the swimming beach at Fort Worden. This allows us to warn

beach users, both through signage and the BEACH webpage, if there is an elevated risk for recreational-contact illnesses.

- Lake Monitoring – Due to recent blooms of toxic cyanobacteria (blue-green algae) in area lakes, JCPH is monitoring public-access lakes for toxic cyanobacteria throughout the growing season. Lakes are monitored visually until the beginnings of a bloom are seen, at which time samples are taken for laboratory identification of species and toxins. Lab results showing high cell counts of potentially toxic species, or direct toxin detections, trigger warnings or closures posted at the lakes and on the JCPH webpage.

2.2.3 Designating Sensitive Areas

Areas Where OSS May Pose an Increased Threat to Public Health

Jefferson County has identified areas where OSS may pose an increased threat to public health; however, it is important to note that there is currently no data that indicates the relative contribution of OSS to degraded water quality in sensitive areas. The areas that have been identified are as follows:

- Critical Aquifer Recharge Areas – Jefferson County has delineated Critical Aquifer Recharge Areas in the Unified Development Code.¹¹ These are considered when evaluating land use permit applications. Standards as described in the UDC 18.30.180 are applied to onsite sewage systems in these areas that address the treatment and removal of nitrogen from the waste stream.
 - ✓ Sole Source Aquifers as designated by the US EPA- Marrowstone Island has been classified as a sole source aquifer and is classified as a Critical Aquifer Recharge Area
 - ✓ Group A well head protection areas
- Frequently Flooded Areas – Areas that are defined as being in the 100 year floodplain per the Federal Emergency Management maps are required to meet special standards for the onsite sewage system. These standards are intended to assure that treatment continues when the area is flooded. **See *Appendix A.12 for specific language in code.***
- Properties within 200 feet of a shoreline
- Properties within 200 feet of a class 1 or 2 wetland
- Water bodies listed on the DOE 303(d) list for fecal coliform exceedences
- Shellfish Protection Districts if used to target limited/specific areas
- Marine Recovery Areas

Jefferson County will add to this list if data show that OSS pose increased public health risks in an area of the county. The Jefferson Water Quality Division tracks water quality monitoring activities in the county and assists in coordinating efforts to diagnose problems and take corrective actions.

Methods for Identifying Sensitive Areas in Jefferson County

Jefferson County Unified Development Code (UDC) governs the designation of environmentally sensitive areas including Critical Aquifer Recharge areas, Wetlands, and areas within the 100 yr flood plain. According to this section the County will designate the location and extent of environmentally sensitive areas “based upon best available information from qualified professional sources”. Maps are available via hard copy and the Counties web site at www.co.jefferson.wa.us . These maps are for advisory purposes only. Environmentally sensitive areas that are not mapped but that meet the criteria are still regulated and areas that are mapped but do not meet the criteria are not regulated.

Designation of environmentally sensitive areas is part of the Counties Unified Development Code, a land use code, and is not connected to the local onsite sewage code 8.15 excepting that the local code does require compliance with other state and local codes.

Areas may also be designated based on testing results or listing by another agency if reviewed and approved by the JC Board of Health.

Areas excluded from consideration

- Jefferson County has no up-gradient areas directly influencing water recreation facilities designated for swimming in natural waters with artificial boundaries within the water as described by the Water Recreation Facilities Act.
- Jefferson County does not have any wetland areas under production for crops for human consumption.

2.2.4 Coordination with planning departments within jurisdiction

- Land use and development applications including subdivision, building, and stormwater are reviewed by Environmental Health Division staff for compliance with state and local onsite sewage code and policies.
- Environmental Health Division staff is included in the meeting notices for planning documents such as the Shoreline Master Program, the Flood Damage Prevention Ordinance, the Unified Development Code (includes sections on activities in and around areas identified as environmentally sensitive such as wetlands, critical aquifer recharge, salt water intrusion zones).
- Local planning codes, Comprehensive Plan and implementing ordinances are reviewed by Environmental Health Division staff for compliance/consistency with state and local onsite sewage codes and policies.
- Environmental Health Division and/or Water Quality Division has staff on the following committees
 - ✓ Utility Coordinating Committee – drinking water
 - ✓ Marine Resource Committee

- ✓ Water Resource Inventory Committees, 16, 17, 20
- ✓ Shoreline Master Program Advisory Committee
- This plan and the local onsite sewage code are provided to Jefferson County Development Review staff for comment.

2.3 State Environmental Policy Act Review

The Washington State Environmental Policy Act requires state and local agencies to consider likely environmental consequences from proposed policy and implementation. Jefferson County's OSS Management Plan will undergo a SEPA Review in which Jefferson County Environmental Health Division will use a checklist to determine if there are any significant adverse impacts from the newly adopted plan.

2.4 Resources

Jefferson County is currently working with a consultant to do a Clean Water District for all of eastern Jefferson County. The consultant is responsible for public outreach and education regarding the Clean Water Plan and developing the framework for funding options.

2.5 Timeline

Goal	Activities	Deadline
Develop mapping tools to facilitate provision of information to homeowners and OSS designers	Coordinate with JC Information Services to develop maps	Ongoing
Complete adoption of Clean Water District to provide stable funding source for ongoing assessment of water quality and corrective actions	Coordinate with Consultant	December 2008

2.6 Summary and Prioritization of Activities

Essential to completing the tasks and goals outlined in the plan is the adoption of the Shellfish Protection District to provide a stable funding source. The Water Quality Division will work to track water quality monitoring data collected in the county to determine sensitive area needs.

Part 3: Operation, Monitoring and Maintenance in Sensitive Areas

3.1 Introduction

This section of the plan will review existing operations, monitoring and maintenance requirements in Jefferson County. It will also review considerations for areas identified in this plan as environmentally sensitive. Considerations include initial installation standards as well as ongoing O&M standards. Enforcement of these standards will be discussed.

This part of the plan is intended to fulfill the following elements of WAC 246-272A-0015 (1) Developing the written plan and (7) Implementing the plan.

- (1)
 - (c) Identify operation, maintenance and monitoring requirements commensurate with risks posed by OSS within the geographic areas identified in (b) of this subsection;
 - (g) Enforce OSS owner permit application, operation, monitoring and maintenance and failure repair requirements defined in WAC246-272A-0200(1), 0270, 0275 and 0280 (1) and (2).
 - (h) Describe the capacity of the local health jurisdiction to adequately fund the local OSS plan, including the ability to find failing and unknown systems.
- (7)
 - (a) Ensure additional maintenance and monitoring of the OSS;
 - (b) Provide dedicated easements for inspections, maintenance, and potential future expansion of the OSS;
 - (c) Place a notice to title identifying any additional requirements for OSS operation, maintenance and monitoring; and
 - (d) Have an inspection of the OSS at the time of property transfer including the preparation of a "record drawing" if necessary.

3.2 Activities

3.2.1 Current operations, monitoring and maintenance requirements in Jefferson County.

Monitoring Requirements

The advisory group involved in the local code revision of September 2000 recommended a risk based approach to the monitoring requirements. They determined that sites that are adjacent to the shoreline and whose system is within 200' of the shoreline would require a higher monitoring frequency than others. The group also required a higher frequency where lot size is less than 1 acre. It requires that all onsite sewage systems be monitored periodically at the schedule adopted in JCC 8.15 Table 1. The requirements are as follows:

- Conventional gravity or pump to gravity permitted as of 9/2000 are subject to a permit condition that states the required monitoring frequency. For sites over 1 acre, greater than 200' from a shoreline and not subject to a waiver the system must be monitored every 6 years. Sites less than one acre, systems less than 200' to a shoreline or subject to an approved waiver must be monitored every 3 years. It is the responsibility of the property owner to contract with a private provider or the Health Department for the monitoring.
- All other systems are subject to a permit condition that requires entering into a contract for monitoring the system with an approved monitoring entity. The frequency varies from 1 to 3 years based on the above criteria. The currently approved entity is the Jefferson County PUD #1. The contract must be signed prior to final approval of the onsite sewage system permit.
- All systems generating waste water of greater than residential strength must be inspected annually per permit condition and/or contract.

Implementation of Monitoring Requirements

The methods of implementing the monitoring requirement vary with the system type and when it was permitted/installed.

- Systems being permitted currently:
 - Conventional gravity systems or pump to gravity are subject to a permit condition that states the monitoring requirements.
 - Contracts have been required for all non-conventional systems up to June 2007. This contract was with the Jefferson County PUD and was recorded to the property. **See Appendix A.13 for example of contract.** PUD staff completed the required periodic inspections as required by the code and entered the information into the database or an owner could have a certified O&M Specialist complete the inspection and submit the report to the PUD for recording and entering the information.

The PUD has determined that they will no longer be doing the monitoring of on-site sewage systems as of January 2008. In anticipation of this change, as of June 2007, the PUD is no longer completing and recording a contract on installed systems. The current practice is that a "Monitoring Agreement" is recorded to the property that states the owners responsibility to have the system monitored at the frequency required in the local code, Table 1. **See Appendix A.14 for an example of the agreement.**

- A notice is placed to the title where monitoring/maintenance are required by a manufacturers authorized representative.
- Systems permitted or installed prior to O&M requirements adopted either in 1987 or in 2000 are enrolled in the monitoring program beginning at the following times:

- ✓ Time of Sale
- ✓ Application for certain building permits per JC Policy 04-01
See Appendix A.15 for policy.
- ✓ When site is identified as being in a Shellfish Protection District or a Marine Recovery Area
- ✓ Identification that an OSS is used as a community OSS
- ✓ Identification that the system has received a waiver or variance from on-site sewage codes.

Additional System Monitoring

Septic Pumpers are required to submit a report on a form approved by Jefferson County following system pumping. **See Appendix A.16 for sample.** This report identifies:

- ✓ General condition of the septic tank
- ✓ Sludge and scum measurements
- ✓ Indications of flow back from the drainfield (may indicated problem with effluent infiltration into the soils or seasonal influence of ground water)
- ✓ General condition of the pump chamber if present
- ✓ Other comments as necessary

Permit Review and Design Standards

- Review for proximity to environmentally sensitive areas (ESA) is completed for septic applications for new systems, repairs, modifications or alteration and tanks only (connecting to existing systems or community systems). ESA's include critical aquifer recharge areas, wetlands, shorelines and flood plains as well as others regulated through the Jefferson County Unified Development Code. **See Appendix B.4 ESA mapping and checklist.**
- All applications include a site inspection to verify site conditions.
- Design standards apply to all systems to facilitate monitoring and maintenance of onsite sewage systems.
 - ✓ Watertight risers to grade on septic and pump tanks
 - ✓ Risers to grade on distribution boxes and other flow splitting arrangements
 - ✓ Monitoring ports to the infiltrative surface on non-conventional systems where applicable.
 - ✓ Monitoring ports to distribution pipes for flushing and measuring flows
 - ✓ Cycle/dose counters where a pump is required
 - ✓ Pump run time meters
 - ✓ Audio and visual alarms where a pump is required

3.2.2 Sensitive Area O&M Requirements

3.2.3 Enforcement Activities

Jefferson County has limited resources for enforcement and operates on the general concept of “voluntary compliance”. In other words once a property owner is notified of a deficiency or problem we make every effort to enable the owner to comply without aggressive enforcement actions. Education is a strong component of this system, both on a community wide and site specific basis.

Information and Guidance

Many opportunities exist for homeowners to obtain information about the status of their OSS. The strength of this portion of our system is essential in the long term success and acceptance of monitoring requirements. A homeowner who understands where their system is and how it works understands the value of monitoring it on a periodic basis to assure proper function. Several opportunities exist for the homeowner in this area.

- ✓ The “record drawing” and basic O&M info is provided at the time of installation,
- ✓ All onsite sewage case records are being scanned for access by the homeowner or other public,
- ✓ Classes are held regularly through out the community (see Education section for full discussion),
- ✓ Staff is available everyday to answer questions, provide existing records and guidance to a property owner,
- ✓ Monitoring reports and follow-up letters, when necessary, are provided to homeowners and buyers,
- ✓ County “data base tools” are accessible on the public website. These link to permit information where a homeowner can see when the last inspection was done and when the next one is due.
- ✓ Written information/ pamphlets are available in the office and can be mailed,
- ✓ The public health website contains access to all pamphlets and forms.

Compliance Review

There are several opportunities for review of the status of monitoring of a system.

- ✓ All building permit applications are reviewed for compliance with the conditions of the onsite sewage permit. If an inspection of the system is required or if major items required correction based on the last monitoring report the *building permit approval will be withheld until the required inspection or corrections are satisfactorily remedied.*
- ✓ Most land use applications are reviewed by the Health Division for compliance with conditions of the OSS permit. Similar action results as above if non-compliance is noted.
- ✓ Submitted monitoring reports are reviewed. If major items are noted as a “problem” - surfacing sewage, high level of effluent in tank or drainfield, etc. a follow-up letter is sent to the owner requiring corrective action. The permit may be placed in a “violation” status until corrections are made.

- ✓ Inspectors (O&M Specialist or Designers) are contacted if any inconsistencies with previous information is noted.

Enforcement Tools

- WAC246-272A includes in the definition of failure non-compliance with standards stipulated in the permit.
- JCC 8.15 defines violation to include cases when:
 - ✓ An authorized person fails to submit the required reports to the Health Division
 - ✓ A certified or licensed person fails to report with 24 hours any non-functioning onsite sewage component that could result in human contact with sewage
 - ✓ An owner fails to complete required O&M inspections
- JCC 8.15 provides for the use of civil penalties for violation of the code up to \$513.00 per day for each continuous day until corrected. A ticket is the tool to utilize this section.
- JCC 8.15 provides for criminal penalties.
- Certificate holders (local Installers and O&M Specialists) are subject to administrative enforcement actions that may include suspension and revocation of certificate after a hearing with the Health Officer or Board of Health.
- Property owners are subject to administrative enforcement that includes placement of a Notice to Title "if the Health Officer finds that an owner has failed to comply with the requirements of this regulation, AND all administrative remedies have been exhausted, AND the case has been forwarded to the Jefferson County Prosecuting Attorney for further action, the Health Officer may record a Notice of Potential Uncorrected Violation finding on the title of the property with the Jefferson County Auditor."
- JCC 8.15 provides for abatement actions where all other tools have failed to result in compliance and there is clear evidence of public health risk.

3.3 Changes and Improvements to O&M and Design

Monitoring requirements will be updated to comply with current state WAC246-272A. Jefferson County will continue to assess this program and adopt more stringent monitoring requirements if evidence establishes the need.

The operations and monitoring section of the local onsite sewage code is being revised at this time and will be removed from JCC 8.15 to a stand alone document. During this process the requirements of WAC246-272A-0270 (1)(d)(I) and (ii) will be met. We will assure a complete evaluation of the system components and/or property to determine functionality, maintenance needs and compliance with regulations and any permits at least once every three years for all systems consisting solely of a septic tanks and gravity OSS and annually for all other systems unless more frequent inspections are specified by the health officer.

A system to enable homeowners to become certified to inspect their own system is envisioned. There will be some limitations to this that relate to inspections required at time of sale, where there are no records for the system, where no 3rd party monitoring has been done or where the site is in a Marine Recovery Area. These details will be addressed in the revisions.

Monitoring and maintenance inspections

- An inspection is required at the time of sale. Jefferson County does not currently have the capacity to track all home sales. Two improvements are targeted in this area.
 - ✓ Creation of a report from existing databases to list all home sales and compare it with monitoring inspection reports submitted.
 - ✓ Currently the code simply states that inspection is required at the time of sale. The goal is to modify this language to require the seller to submit proof of a current monitoring report by an authorized person prior to the transfer or sale of property.
- Septic pumpers are required to submit a report for each tank/s that are pumped. Our goal is to develop a system to enter this data into the system to recognize the value of this maintenance activity on the system and provide the info for the permanent record.
- Develop a certification system for homeowners to complete some of the inspections on their own system.
- Enable homeowner to see the data that is entered from the inspection reports.
- Develop a system to randomly audit monitoring reports to assure maximum consistency between inspectors and accuracy in reported observations.

Permit Review and Design Standards

Currently practices are adequate to protect the sensitive areas and allow monitoring and maintenance of systems.

Enforcement Activities

Efforts will be prioritized as noted:

- ✓ Sensitive areas as described in 2.2.3.
- ✓ Sites where monitoring reports identified problems that indicate failure.
- ✓ Sites where monitoring reports identified problems that are likely to result in failure.

3.4 Resources

Jefferson County does not have additional resources to comply with most of the above referenced changes and improvements. We are currently involved in establishing a Shellfish Protection District, "Clean Water District" for all of east Jefferson County. A consultant has been retained to complete this process.

Completion of this work will allow for many of the required ongoing elements to be successfully carried out as well as the identified changes and improvements.

3.5 Timeline

Goal	Activities	Deadline
Develop report to facilitate tracking of home sales and monitoring reports received	Coordinate with JC Information Services and the JC Assessors office on data access	December 2008
Complete adoption of Clean Water District to provide stable funding source for ongoing assessment of water quality and corrective actions	Consultant retained to complete all activities and public information components for adoption	December 2008
Expand use of existing permitting database to enter pumping reports	Coordinate with database administrator	December 2009
Develop system for accessing monitoring records in database for the public	Coordinate with JC Information Services Division and Database administrator	December 2009
Adopt revisions to O&M section of local code	Create revised code language, review by advisory group and BOH	December 2008

3.6 Summary

Jefferson County will work aggressively to complete the revisions to the operations and monitoring section of the onsite sewage code and move to adoption of the new code. Subsequently a homeowner certification process will be developed and implemented for those interested in this approach. Jefferson County will continue to review siting, design and monitoring requirements for OSS in areas where these systems pose an increased risk to the public health. Emphasis will continue to be placed on informing homeowners about their systems and creating opportunities for them to properly operate and maintain their systems.

Part 4: Marine Recovery Areas

4.1 Introduction

4.1.1 Definition of MRAs

A Marine Recovery Area, as defined under RCW 70.118A.020, is "...an area of definite boundaries where the local health officer, or the department in

consultation with the health officer, determines that additional requirements for existing on-site sewage disposal systems may be necessary to reduce potential failing systems or minimize negative impacts of on-site sewage disposal systems.”

4.1.2 Legal authority for MRAs

In July 2005, the State Board of Health added a new requirement in the revised On-Site Sewage Systems WAC 246-272A regulations. Washington's local health officers must plan for the development and management of all OSS within their jurisdiction. This planning requirement clarifies and strengthens OSS management practices in sensitive areas as defined by the Areas of Special Concern under the previous regulation. More detailed planning requirements apply to the twelve counties bordering Puget Sound. The new regulations require Puget Sound local health officers to:

- Develop or enhance an OSS database
- Identify sensitive areas within the jurisdiction
- Designate Marine Recovery Areas
- Identify Operation and Maintenance (O&M) requirements for sensitive areas
- Provide education and reminders
- Enforce OSS requirements
- Describe capacity to fund OSS plan

The 2006 legislation directed the Department of Health and Jefferson County's health officer (as well as the other 11 Puget Sound counties) to take further actions to reduce fecal coliform bacteria pollution and the degradation and loss of marine life in Hood Canal and other marine waters in Puget Sound caused by low-dissolved oxygen conditions. DOH directed the agencies to reduce the input of human-influenced nutrients, especially nitrogen, into marine waters.

Marine Recovery Areas (MRAs) must be designated when the Jefferson County health officer determines that existing OSS are a significant factor contributing to concerns associated with the degradation of shellfish growing areas, marine waters listed by the Department of Ecology (Ecology) for low-dissolved oxygen levels or fecal coliform bacteria, or marine waters where nitrogen has been identified as a contaminant of concern.

The legislature directed Jefferson County's health officer to develop an on-site strategy for marine recovery areas that must specify how Jefferson County will do the following by July 1, 2012, and thereafter:

- Find existing failing systems and ensure that system owners make necessary repairs, and

- Find unknown systems and ensure that they are inspected and functioning properly, and repaired if necessary.

The marine recovery area on-site strategy will be incorporated into Jefferson County's On-site Sewage Program Management Plan. There may be advantages to preparing the strategy first so it can be used in the development of the management plan. After the Plan has been approved by the local board of health, the health officer must submit a copy of the Plan to DOH and to all entities responsible for land use planning and development regulations in Jefferson County for review. DOH will review the Plan for completeness.

4.2 Activities

Other than routine O&M of OSS in all Jefferson County, there have not been any extraordinary activities to the writing of the plan regarding O&M.

4.3.1 Identification of MRA

There were two main components considered when Jefferson County established a Marine Recovery Area in Hood Canal: the marine areas as described in the statute (ARZ-1) and land areas with on-site sewage systems that may affect water quality in those marine areas. The first step was to utilize the best available scientific and technical data in an analysis of potential geographic boundaries. The second step was to present data on both water quality and the status of on-site systems to the health officer, the Jefferson County BOH, and the advisory group for MRA designation.

The three data sources required for consideration are:

- 1) Shellfish growing areas that have been threatened or downgraded by DOH,
- 2) Marine waters that are listed by Ecology for low-dissolved oxygen or fecal coliform (303(d) list), and
- 3) Marine waters where nitrogen has been identified as a contaminant of concern by the local health officer.

Shellfish growing areas that have been threatened or downgraded by DOH.

Each growing area contains a series of sampling stations. Samples are collected over time from each station and tested for fecal coliform to determine water quality at those locations. The results of these fecal coliform tests drive the classification of the growing areas according to National Shellfish Sanitation Program (NSSP) standards. When these standards are not met, a shellfish growing area is downgraded to a lower category. The four classifications, from best to worse, are "Approved," "Conditionally Approved," "Restricted" and "Prohibited."

If water quality at one or more sampling stations indicates worsening water conditions over time but has not yet exceeded NSSP standards, those sampling

stations might receive a status of “Concerned” or “Threatened.” A “Threatened” status means that a portion of the growing area will be downgraded if water quality does not improve or worsens. Threatened water quality at stations in Hood Canal was one of the considerations when determining the MRA outlined in this Plan.

Another consideration was the downgrade of a growing area. When a portion of a growing area changes to a worse classification it is considered “Downgraded” and is included in the determination of a Marine Recovery Area. The Shellfish program publishes annual reports of growing areas listing all the downgrades and threatened areas for the year. Any growing area with a classification of “Conditionally Approved,” “Restricted,” or “Prohibited” should be considered in an MRA analysis with the understanding that a growing area with one of these designations would not automatically lead to an MRA, but would be a very significant reason for such classification.

Marine waters that are listed by the Department of Ecology under section 303(d) for low-dissolved oxygen or fecal coliform bacteria.

Another way the MRA in Jefferson County was identified is the listing on the Department of Ecology’s 303(d) listing for low-dissolved oxygen and fecal coliform bacteria.

Marine waters where nitrogen has been identified as a contaminant of concern by the local health officer.

RCW 70.118A.040 (1) (c) directs the local health officer to propose a marine recovery area for those land areas where existing on-site sewage disposal systems are a significant factor contributing to concerns associated with marine waters where nitrogen has been identified as a contaminant of concern by the local health officer.

However, unlike (1)(a) and (b), in RCW 70.118A.040 (c) there are no statewide monitoring data for nitrogen in marine waters to help in the determinations of a possible MRA. The statute requires Jefferson County to make a judgment about marine areas known to be at risk from nitrogen contamination and consider the potential contribution from OSS to the problem. At this time, Jefferson County considered the low-dissolved oxygen issues in Hood Canal significant enough to classify Hood Canal as a MRA, but we are dubious about the correlation between OSSs and low DO. However, as the nitrogen/low dissolved oxygen issues become clearer with more data, it may be necessary for the health officer to consider de-classifying the area.

4.3.2 Evaluation of OSS to Ensure Proper Function

In the Hood Canal MRA, Jefferson County will conduct a field assessment of existing OSS along the entire Hood Canal shoreline from Tala Point to the southern county line using the Ecology-approved Protocol for Pollution Identification and Correction (PIC) ***See Appendix A.17 for the PIC protocol.***

Before conducting fieldwork, the objectives of the site visits (survey) will be defined. Generally, the surveys will be used to determine functionality of the OSS. Fieldwork will include door-to-door sanitary surveys, resident interviews, education, dye testing as necessary, and surface water monitoring to identify failing systems and provide base data for measuring success. Jefferson County will utilize CCWF funds to conduct this work over a 3-4 year period.

Even if an evaluated system is found to be functional, but not O&M friendly, Jefferson County will advise homeowners to install O&M components (such as risers on all tanks and at the d-box, monitoring ports at near and distal ends of drainfield legs, timers and counters for systems with pumps and outlet baffle filters for all septic tanks) in order to provide the homeowner with the means to conduct more thorough O&M inspections on their system. Jefferson County will pursue grant funding to provide financial assistance to homeowners to perform upgrades on their systems, as well as work with ShoreBank Enterprises or other financial institutions to assist with funding these upgrades.

4.3.3 Determination and Repair of Failing Systems

If an OSS is identified as failing per the definition of failure in WAC 246-272A and in Jefferson County's local OSS code, the homeowner will be provided with information about ShoreBank Enterprises low-to-no interest loan program to repair their failing OSS. Information about other financial assistance options will be provided when known. If voluntary compliance cannot be obtained, then further enforcement action will be taken, up to and including abatement.

All repaired OSS in the designated MRA will be required to meet current state and local code, and will be O&M friendly. All repaired OSS that require pumps will also be required to have timers and counters, meet manufacturers O&M requirements, meet State Recommended Standards and Guidance (RS&Gs), and have monitoring ports installed throughout the system. Repaired systems in a designated MRA will have to strictly follow Jefferson County O&M requirements. Active and aggressive enforcement of the O&M requirements will be mandatory in the designated MRA.

4.3.4 Additional Requirements within MRAs

A current monitoring inspection report by a certified 3rd party must be on file prior to a property sale within the MRA boundary as in other areas of the county.

Additionally, Jefferson County will require the following for any new OSS installed within designated MRAs:

Standard gravity and pump-to-gravity OSS

For new standard gravity and pump-to gravity system located within a designated MRA, a certified 3rd party O&M Specialist must conduct an O&M inspection at the third year of operation (the 1st inspection). After the third year, an O&M inspection will be required every 3 years and/or at the time of sale. All standard

and pump-to-gravity systems to be installed within a designated MRA will be installed with O&M friendly monitoring ports, easily accessible lids with risers, and outlet baffle filters.

Alternative and proprietary systems

All new and existing alternative and proprietary systems in a designated MRA will have to meet the following additional requirements:

- 1) Timers and counters will be mandatory on all systems.
- 2) Strict adherence to all manufacturers O&M requirements, and State RS&Gs, will be required for all proprietary systems.
- 3) Strict adherence to, and enforcement of, the O&M schedule will be mandatory.

4.3.5 Identifying Unknown OSS in MRAs and Ensuring Proper Function

Each year, Jefferson County identifies previously unknown systems through established practices. Information on these systems is added to the database and, over time, the percentage of unknown systems within Jefferson County is reduced. In order to find all OSS within the Marine Recovery Areas by 2012, Jefferson County will employ the following strategy. This strategy operates programmatically for all parcels within the designated MRA as well as on the individual properties. Jefferson County's strategy develops a prioritization of activities with potentially high-risk situations taking precedence. The following outline lists Jefferson County's MRA on-site strategy:

- ✓ Within each newly defined MRA, Jefferson County will develop a known, assumed and unknown OSS data set using parcel data and permitting data as is currently in progress for countywide O&M monitoring.
- ✓ Jefferson County will identify property owners and request information regarding their OSS by mail or in person. This may include as-builts, O&M records, building permits or other pertinent information.
- ✓ Jefferson County will prioritize the developed areas within a MRA where OSS data is missing in order to identify why the data gaps exist and prioritize work efforts (such as conducting sanitary surveys) to fill in those data gaps.
- ✓ Jefferson County will update the electronic database and paper records as new information becomes available. As required by RCW 70.118A.060(2), Jefferson County will assure that the data compiled within the MRA will be compatible with the OSS data systems used throughout Jefferson County.

Once the Jefferson County BOH and the community agree with the strategy herein, Jefferson County will begin to conduct field assessments of existing OSS within the MRA. Before conducting fieldwork, the objectives of the site visits (survey) will be defined. Generally, the surveys will be used to determine functionality of the OSS. Fieldwork will include door-to-door sanitary surveys, resident interviews, education, dye testing as necessary, and surface water

monitoring to identify failing systems and provide base data for measuring success. Fecal coliform bacteria contamination from other sources such as stormwater runoff and animal waste (including from hobby farms) would be useful information for further investigation.

The Jefferson County MRA strategy addresses citizen participation via education efforts. These efforts include public meetings, direct mailings, press releases, newspaper articles, public information advertisements, community events (fairs, markets, etc.), workshops on on-site sewage system O&M, providing homeowners with copies of their OSS records, and providing technical advice and information brochures on OSS maintenance.

Jefferson County will manage OSS data within the MRA via the existing O&M database system. The strategy addresses data maintenance in relation to ensuring that OSSs are not failing within the MRAs. Data maintenance includes: report collection, data entry, verification of data accuracy, ensuring that data is shareable, mechanisms in place to recover costs, linking O&M reports to parcel data, and the ability to follow-up with problems that are identified. O&M data will also be useful in the performance evaluation of O&M providers within the jurisdiction.

4.4 Electronic Data System of OSS within a MRA (3SHB 1458, Section 6)

4.4.1 Reporting Failing Systems to Jefferson County Report Submission

An OSS maintenance specialist, septic tank pumper, or other person performing O&M on an MRA will submit reports to Jefferson County Public Health via mail. Eventually, online submissions via a web-based system will be available.

Unsatisfactory Reports

When a report is submitted as “unsatisfactory” by an O&M specialist, the record will be tagged within the database. The tagging may be linked to any prescribed actions. Unsatisfactory reports in any area will place the record on a notification list where the owner will be sent a notification that such a report is on file, details of the issue that caused the report, and instructions on what is needed to address the concern. This notification will include a mail-back form for the homeowner to fill out how the issue was resolved. The homeowner will continue to receive such reports until the issue is resolved and updated in the database.

Additional Activities & Tools Needed in Finding Failing Systems

Currently, Jefferson County is planning on hiring staff and the tools necessary to follow-up with unsatisfactory reports, up to and including technical advisory visits. Enforcement activity beyond notification and tagging of the case will not be pursued for non-failing unsatisfactory reports.

Coordination with DOH

Jefferson County will be working with the DOH to develop common forms and protocols to facilitate the sharing of data on MRAs.

4.4.2 Ensuring Electronic OSS Data Systems for Each MRA are Compatible within Jefferson County (addressed in Part One)

OSS data systems for the Hood Canal; MRA is compatible within Jefferson County. Jefferson County will work with other agencies, as applicable, that maintain OSS data to ensure that the data systems are as compatible as possible.

4.5 DOH Contracts with Jefferson County for Marine Recovery Area

4.5.1 Jefferson County's current capacity and estimated need (personnel, financial assistance, hardware and software, etc.) to meet certain goals

Jefferson County will not be able to meet the goals outlined in this Plan without financial assistance to provide more personnel and software. Specifically:

- 1) Additional long-term and stable funding for additional Full Time Employees (FTEs) to conduct sanitary surveys of OSS in the Hood Canal MRAs is needed. Without additional personnel, the needed sanitary survey work in the Hood Canal MRA cannot be performed. Funding sources could include local and state funding, or a combination of both. Current funding levels do not allow for increased FTE to conduct the necessary work outlined herein.
- 2) Workspace is a severe limitation for the Jefferson County EH department. A stable funding source will be needed to include funding for renting more work space to add FTE. Until a new or additional workspace can be identified and secured, adding FTE is not possible.
- 3) Additional and short-term funding must be secured to complete the document scanning task that must be done as soon as possible. A full time FTE for approximately one year would be enough to complete the task.
- 4) More funding is needed to have the current database upgraded to meet the reporting expectations of DOH. The funding source would be used as-needed to perform customized data retrieval/queries for OSS in the Hood Canal MRA.

If DOH can secure funding and contract with Jefferson County for these high priority items, then implementing this Plan would be possible within given timeframes. Otherwise, this Plan will not be able to be implemented and the goals outlined herein will not be achieved.

4.6 Resources

Puget Sound Partnership, Ecology and DOH will continue to provide technical assistance to Jefferson County on issues related to the shellfish protection districts and closure response strategies.

4.7 Timeline

The following timeline outlines the steps necessary to develop and implement a Marine Recovery Area strategy:

Requirements	Activities	Deadline
1. Define MRA Boundaries within Jefferson County (RCW 70.118A.040)	1. Jefferson County proposes a MRA in Hood Canal within Jefferson County jurisdiction 2. Present data on both water quality and the status of OSS to BOH, BOCC, OSS Technical Advisory Groups, WRIA 17, and Closure Response Teams.	1. July 1, 2007 2. July 19, 2007
2. Develop MRA OSS Strategy for Designated MRAs (RCW 70.118A.050)	By July 1 2012, Jefferson County will find existing failing OSS and repair those systems to code and locate/identify unknown OSS and ensure that functionality.	Strategy due by July 1, 2007
3. Require O&M Professionals to Report on all Failing Systems Found Within MRAs (RCW 70.118A.060)	Jefferson County will utilize existing OSS electronic data systems and will maintain records for all OSS within designated MRAs.	Ongoing
4. DOH Responsibilities (RCW 70.118A.070)	DOH will: <ul style="list-style-type: none">• Review Jefferson County's Sewage Management Plan for completeness• Within 30 days, approve the MRA Strategy or suggest changes DOH will assist Jefferson	Sewage management Plan due to DOH by July 1, 2007

	County in: <ul style="list-style-type: none"> • Enhancing OSS electronic data systems via funding 	
5. DOH Contracts with Jefferson County to Implement the Plan (RCW 70.118A.080)	Jefferson County details steps towards the progressive improvement of: <ul style="list-style-type: none"> • Increasing the percentage of OSS represented in the database accurately • Increasing the percentage of OSS receiving inspections within the appropriate service intervals • Finding failing OSS and making needed repairs • Finding and inspecting unknown OSS 	July 1, 2012
6. Financial and Technical Assistance (RCW 90.48.595)	<p>The Department of Ecology shall provide financial and technical assistance to Jefferson County for Pollution Identification and Correction programs within current and future designated MRAs.</p> <p>ShoreBank Enterprises or other financial institutions will provide low-to-no interest loans to homeowners with failing OSS to repair their OSS. Priority will be given to low-income and financially distressed homeowners</p>	July 1, 2007
7. 3SHB 1458, Sec. 11 (this section not codified)	DOH report to Legislature on progress made toward MRA designation and strategy implementation	December 31, 2008

4.8 Summary

Jefferson County will embark on an aggressive and encompassing effort to identify existing OSS within designated MRA, determine functionality, and assure proper records about the OSS is recorded on an enhanced and easily-queried database system.

Part 5: Education

This part of the Plan describes the OSS education activities that the Jefferson County Environmental Health Division conducted prior to the establishment of the new state law, and the activities that the Division plans to conduct to support the provisions of this Plan. This section relates to the following elements of WAC 246-272A-0015(1):

- d) Facilitate education of homeowners regarding their responsibilities under this chapter and provide operation and maintenance information for all types of systems in use within the jurisdiction;
- e) Remind and encourage homeowners to complete the operation and maintenance activities as identified; and
- h) Describe the capacity of the local health jurisdiction to adequately fund the local OSS plan, including the ability to find failing and unknown systems.

5.2 Activities

5.2.1 Current Education Program

The following section details the current methods Jefferson County Environmental Health uses in educating the public about the risks of OSS to public health. JC Code 8.15.150 (4) states that the Health Officer shall be responsible to make available written guidance on the proper maintenance and operation of the OSS to the owner. Information shall be made available at the Health Division and the JC Department of Community Development locations and shall be mailed on a periodic basis to owners of OSS by the Health Officer or his/her designated representative. This is fulfilled by workshops, mailings, web accessible pamphlets and links, and written information at selected locations as detailed below:

5.2.1.1 Public classes & events

Analysis of monitoring reports informs development of class content as well as highlighting areas for which we need to develop additional written or web available material. Crystal Reports allows us to evaluate monitoring information in relation to other fields within the Accela database. Reports can be generated

by defining parameters by time period of inspection, inspector, problem identified, land area (lot size), system type, soil type, date of installation, etc.

- Classes are provided to homeowners through Association meetings, advertised events and as part of other groups such as WSUs' Water Watchers, Realtors trainings, and Shore Stewards. From 2001–2005, 51 classes/workshops were provided to 1,291 participants.
- Participation in school sponsored events such as career days and science classes.
- Classes sponsored and held locally are provided to onsite sewage professionals-designers, installers, pumpers and O&M Specialists. These range from trouble shooting system problems, electrical controls, drip irrigations systems and code revisions.
- TV – video – A 30 minute spot was produced for the local cable station on water quality and OSS.
- Public Workshops coordinated with other water quality improvement programs such as the Hood Canal Sanitary Survey Project.
- As part of the Hood Canal Survey Project Jefferson County staff has conducted 30 site visits for “septics of concern”. These sites are in the vicinity of sampling sites that have e-coli hits. These site visits consist of reviewing the OSS with the owner, providing them a copy of any records we have on their site and providing technical assistance to the owners of the system. Dye tests are also used in some cases to diagnose problems. Homeowners are provided with system operating information and repair financing options.

5.2.1.2 Educational Handouts, Technical Assistance

- Professional and technical staff are available for site specific and general information regarding OSS.
- Pamphlets on:
 - ✓ “Taking Care of Your Septic System”
 - ✓ “Getting Approval on Your Property”
 - ✓ “Rate Your Septic System Knowledge”
 - ✓ “Septic Tank Additives”
 - ✓ “Inspecting Your Septic Tank”
 - ✓ “Myths and Truths About Septic Systems”
 - ✓ Low interest loan programs
 - ✓ Understanding and Caring for Your X System (provided by DOH)
- Direct mailing – At the time of system installation, upon completion:
 - ✓ Conventional systems – Since 2000 - The current owner is sent an “asbuilt/record drawing”, a sticker with installation info and “do’s and don’ts”, a pamphlet on caring for the system, and a memo from the Public Health Department.
 - ✓ Non-conventional systems – The designer is required to provide the “asbuilt/record drawing”, the installation report and an operations

and maintenance manual that is specific to their system to the owner.

- Monitoring inspection reports are provided to the property owner upon completion of each inspection by the inspecting entity.
- Scanned Records – Jefferson County has begun an extensive, long term project to scan all onsite sewage records. This will allow a reduction in the use of paper copies and facilitate the provision of records to owners and other interested parties. While the entire record is scanned only a portion is placed on a site that is available to the public. It consists of:
 - ✓ initial application,
 - ✓ permit and conditions,
 - ✓ approved design,
 - ✓ “asbuilt/record” drawing and report,
 - ✓ soil logs

5.2.1.3 Webpage and Links to external resources

- Jefferson County Public Health Webpage provides the above pamphlets in pdf format, forms, owner and professional information, lists of currently certified installers and O&M Specialists.
- Links to external websites are located on Jefferson County's Environmental Health webpage including: WSU Cooperative Extension and Jefferson County Conservation District, King County Metro, WS DOH, Northwest Onsite Training Center (Puyallup). *(see appendix for screen shots)*

5.3 PLANNED EDUCATION

Response to homeowner classes targeted to properly operating and maintaining their systems is extremely positive. Workshops were given to several homeowner groups from September –October 2002. A postpaid postcard was sent to 85 workshop participants in May of 2003 with seven questions regarding the workshops. The goal of these workshops is to modify or reinforce best practices regarding operation of their septic system. Questions ranged from the basic – “was the workshop useful?” to “describe one thing you do differently as a result of attending the workshop”. The return rate was 37 %. On a scale of 1-10, 10 being the best, 85% rated it 8 or higher, 94% felt it should be continued, 97% shared the info with others and 88% listed at least one thing they do differently. **See Appendix C.1 for questionnaire and results)**

- Future educational/outreach possibilities include: increasing the number of public advertisements, general educational mailings, and operations and maintenance classes. Four to seven classes per year are planned. Class size ranges from less than 10 to more than 60.
- One of the local designers has developed a homeowner open book “quiz” that he requires the homeowner to take and pass prior to signing off on the system installation. The quiz can be answered entirely from his design and

the homeowner manual he provides. He has suggested the county consider making this a requirement for all systems.

- The following brochures/pamphlets are in development for “How to Hire a Septic Designer” and “Understanding Your Inspection Report”.

5.4 Current Reminders

5.4.1 Initial Installation Introduction

- Direct mailing – At the time of system installation, upon completion:
 - ✓ Conventional systems – Since 2000 - The current owner is sent an “asbuilt/record drawing”, a sticker with installation info and “do’s and don’ts”, a pamphlet on caring for the system, and a memo from the Public Health Department.
 - ✓ Non-conventional systems – The designer is required to provide the “asbuilt/record drawing”, the installation report and an operations and maintenance manual that is specific to their system to the owner.

5.4.2 Periodic Notification

A post card is used to remind homeowners that an inspection is due. When major items of concern are noted on the inspection report a follow up letter is provided to the owner with a list of licensed designers or installers, whichever is necessary based on the conditions noted.

5.5 Planned Reminders

Jefferson County plans to continue the practice of sending reminder notices to homeowners to conduct or hire a professional to conduct O&M on their OSS. Based on feedback from the advisory group we plan to develop a series of brief, concise materials that review do’s and don’ts, trouble shooting system problems and other items as they are identified. The scanning project will allow all homeowners to access their permit documents information on-line. This process has been underway for over a year, and records for cases from 2000-2002 are available now.

5.6 Measured Effectiveness of Targeted Outreach

The postcard questionnaire was a useful tool and provided valuable information as to what elements of the classes was most effective. This tool will be used in this context and with other outreach methods in the future.

5.7 Resources

Current resources for educational outreach include county funds for further homeowner education and systemic reminders for O&M inspections. Additional resources needed to implement activities as outlined in Part 5 include:

1. Additional funding to develop and send reminders, postage costs, staff costs, and miscellaneous costs to track and disseminate information;
2. Additional funding to assist Jefferson County in developing materials for education presentations, outreach sessions, etc. May include funding for video production, brochures, pamphlets, and other materials.
3. Additional funding to hire a Masters-trained education/outreach specialist to assure proper messaging about O&M.

5.8 Timeline

The following timeline outlines prioritized activities to conduct education and outreach efforts regarding O&M of OSS:

Goals	Activities	Deadline
Educate homeowners on their responsibilities and provide O&M information for all types of systems in use in Jefferson County [WAC 246-272A-0015(1)]	<ul style="list-style-type: none"> • Classes • Published articles in local papers • Develop written and web available info 	ongoing.
Remind and encourage homeowners to complete O&M inspections [WAC 246-272A-0015(1)]	Reminder postcards	ongoing.
Joint community classes with WSU Co-op Extension	Continue to respond to requests as contacted.	Schedule already confirmed for 2007.
Target special education materials to residents in sensitive areas and Marine Recovery Areas	<ul style="list-style-type: none"> • Develop education materials in consultation with new O&M requirements for sensitive areas • Update O&M database to place educational notifications on O&M schedule for sensitive area and MRA residents • Host educational activities in sensitive areas and MRAs. 	Updating education materials and initiating public events and classes shall occur in the subsequent months after establishing sensitive areas and MRAs and their associated O&M details.

5.9 Summary and Prioritization of Activities

Jefferson County will continue its current program and plans to augment its OSS O&M education program in providing educational materials, reminders and notification, holding public meetings and classes, attending and presenting at homeowner's meetings and community events independently and jointly with WSU Cooperative Extension, and providing access to resources for community and O&M specialists. The number of classes and reminders and the date when records will be available online is controlled by available funding.

References

¹ The Washington State Legislature defines "unknown system" as an OSS that was installed without the knowledge or approval of the local health jurisdiction, including those that were installed before such approval was required.

² www.ofm.wa.gov/datebook/county

³ US Census 2000

⁴ 2003 Health of Jefferson County, Jefferson County Health and Human Services

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ Jefferson County Housing Action Plan, adopted Oct. 2006

⁹ Soil Survey US Department of Agriculture Soil Conservation Service, 1975

¹⁰ Jefferson County Surface Water Management Plan, adopted 2006

¹¹ **UDC, adopted 2000**

List of Contacts

Linda Atkins R.S., Environmental Health Specialist 3, Jefferson County Public Health

Mike McNickle M.P.A., R.S., Deputy Director, Jefferson County Public Health

Jim Pearson, Lead author on JC Surface Water Management Plan, Jefferson County Public Works

Michelle McConnell, JC Associate Planner, Lead for Shoreline Master Program Update

Doug Noltemeier, Senior GIS Analyst, JC Central Services Dept.

Pat Perriman, Cartographer/GIS Analyst, JC Assessor/ JC Central Services Dept

Brent Butler, Jefferson County Lead Associate Planner, Lead on Port Townsend and Jefferson County Housing Action Plan, 2006

Data Sources

Health of Jefferson County 2003, Analysis by Dr. Christiane Hale, PhD, MPH and Kellie Ragan MA. Editor Kellie Ragan MA. Technical Editor Dr. Tom Locke, JC Health Officer.

Behavioral Risk Factor Surveillance System (BRFSS) 2001

Jefferson County Comprehensive Plan, 1998 and 2004 update.

Watterson Report, January 1995. Referenced in Comprehensive Plan page 3-3.

2000 US Census

Jefferson County Onsite Sewage Code 8.15

Jefferson County Onsite Sewage Policies

Jefferson County Unified Development Code (UDC) adopted 2000